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EVALUATION OF KIDNEY AND LIVER FUNCTION TESTS

RUSSEL O. BOWMAN, PH.D.
RHODE ISLAND HOSPITAL, PROVIDENCE

The kidney is composed of two physiologically important anatomical parts, the glomerulus and the tubule. The present conception of urinary formation as a filtration and reabsorption process is due, in its present form, largely to the brilliant work of Richards and coworkers¹ of Pennsylvania. Using micro dissection which involved putting a tiny glass pipette into the glomerulus of a frog and collecting glomerular filtrate, Wearn and Richards were able to show that the glomerular filtrate is indeed a filtrate containing all of the diffusible constituents of blood in the same amounts as they are present in plasma and lacking only the non-diffusible plasma constituents such as serum proteins. This filtrate, on passing through the tubule, is subjected to selective reabsorption and, to a certain extent, to secretion. Thus it has been definitely shown that urea and Phenolsulphonphthalein are added to the glomerular filtrate in passage through the tubule while chloride, glucose and water are reabsorbed. Urine, the final product, normally contains no glucose, the same concentration of chloride, sodium, calcium and magnesium, 25 times as much uric acid, 30 times as much phosphate, 40 times as much ammonia, 60 times as much urea, 60 times as much sulphate and 100 times as much creatinine as the blood from which it is formed.

Because of these values urine must represent at least a hundred fold concentration of the glomerular filtrate. Cushny² calculated that for the production of the one liter of urine which is normally excreted in 24 hours, the kidneys must be perfused by 67 liters of plasma. The amount of urine passed by any individual varies according to a number of different factors, some of which are water intake, state of hydration of the individual's tissues (edema, serum protein level, etc.) and blood pressure, since blood pressure is, in the last analysis, the mechanism by which the filtrate is formed. It must

be formed against a back osmotic pressure, due to the undiffusible serum proteins.

Other than its excretory function the kidney plays a very definite part in nitrogen metabolism. Proteins taken in in foods are absorbed as amino acids after digestion. In the liver these are deaminized, and the ammonia which is split off is changed to urea by the liver, and this urea is excreted by the kidney. Enzymes present in the kidney convert part of the urea to ammonia which is used in combination with acid metabolites to conserve the body's alkaline reserve. Tissue destruction arising from infectious processes, or ordinary break-down of old cells, gives rise to amino acids and urea even in the absence of protein intake. Thus, even in the fasting individual the kidney has work to do.

The nitrogen excreted by the kidney is normally all in the form of non-protein nitrogen (urea, creatinine, uric acid, undetermined nitrogen.) The amount of nitrogen excretion depends on a number of factors, such as dietary intake of nitrogen, urine volume, tissue catabolism, and the physiological condition of the kidney and of the liver. Nitrogen as protein appears in the urine only when the glomerulus is diseased and it becomes permeable to the blood colloids.

Tests of Kidney Function

The more important tests of kidney function are:

1

SPECIFIC GRAVITY:—A morning specimen of urine should show a specific gravity of 1.018 or more, provided no fluids have been taken after the previous evening meal. Lower values than this indicate a lack of concentrating ability of the kidney, provided interfering factors such as loosely held edema and previous diuretics have been ruled out.

2

CONCENTRATION AND DILUTION TESTS:—A more satisfactory test of the kidney's ability to concentrate urine is given by the various forms of concentration and dilution tests. In the Mosenthal test, samples of urine are collected during the day at two hour intervals, and the night specimen from 8 P. M. to 8 A. M. is collected as one more specimen. The specific gravity of the various samples taken during

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the day, while the patient has ordinary meals, should vary by 0.010 from the lowest to the highest. The night specimen should not exceed 400 c.c. in volume and its specific gravity should be at least 1.018. There are various other forms of the concentration and dilution tests which correspond rather closely with the Mosenthal test, dilution being tested by giving 1500 c.c. of water to the fasting patient, after which at least one of the two hour urines should have a specific gravity as low as 1.004.

These tests measure only the water excreting function of the kidney. It is very essential that the patient have no fluid between meals and the tests are interfered with by edema and by the maintenance of abnormally low blood pressure.

3

PHENOLSULPHONPHTHALEIN EXCRETION:—1 c.c. of a 0.6% solution of the dye, made slightly basic so that it will be nontoxic, is injected, preferably by the intravenous route, and the dye excretion in the urine is measured for one hour and for two hours after injection of the dye. The normal kidney excretes 40-50% in one, and 60-75% in two hours; an excretion of less than 40% in two hours is indicative of impaired kidney function. This test measures the ability of the kidney to excrete a foreign dye substance. Values will be low in cases of cardiac decompensation and they may be high in nephritis, especially acute nephritis, though sometimes also in the chronic form of the disease.

The result depends very much on the efficiency of the blood circulation and on water excretion of the kidney. In the presence of marked jaundice, special technic is required for the reading of the test.

Some people have modified the original phenol-sulphonphthalein test and measure the appearance time of the dye in separately catheterized kidneys. This modification depends on blood circulation primarily and sometimes is a more sensitive test of kidney function than the former.

4

BLOOD UREA NITROGEN AND NON-PROTEIN NITROGEN:—The normal B.U.N. is 7-15 mg. per 100 c.c. and the normal N.P.N. 20-35 mg. per 100 c.c. of blood. The finding of a normal value for either of these constituents shows that the kidney is effectively able to excrete solids. Used as a test of kidney function, this also depends on blood pressure, nitrogen ingestion, nitrogen catabolism and the state of hydration of the patient's tissues.

5

UREA RATIO:—Mosenthal and Bruger³ have made use of the urea ratio to estimate kidney function. This factor is $\frac{100 \times \text{B.U.N.}}{\text{N.P.N.}}$.

They claim that it is a more sensitive test than ordinary B.U.N. or N.P.N. determinations.

6

CLEARANCE TESTS:—These have been generally found to be the most sensitive tests of kidney function since they measure the ability of the kidney to excrete some definite substance, usually one physiologically present. Van Slyke and coworkers,⁴ of the Rockefeller Institute, showed that when the normal human kidney excretes more than a certain volume of urine the amount of urea excreted varies directly as the urine volume and represents a constant proportion of the urea present in the blood. This certain amount of urine was called the "augmentation limit" and in humans varied between 1.7 and 2.5 c.c. per minute. When less than this amount of urine was excreted per minute they showed that the urea present in the urine varied inversely as the volume of urine, so that the same patient by excreting one-quarter the volume of urine puts out one-half as much urea.

They have two figures:

$$\begin{aligned} C_m \text{ (maximum clearance)} &= \frac{UV}{B} \\ C_s \text{ (standard clearance)} &= \frac{UV}{B} \end{aligned}$$

Here, U is urine urea, B is blood urea and V is the volume of urine formed per minute. The values C_m for urine formation rates greater than 2 c.c. per minute, and C_s for urine formation rates less than 2 c.c. per minute, represent a theoretical figure for the amount of blood which could be cleared of all its urea nitrogen in one minute.

The normal C_m averages 75 c.c. per minute with a variation from 40-85 c.c. per minute and the normal C_s averages 54 c.c. per minute with a normal variation from 30-65 c.c. per minute.

Other clearance tests have been used in which the kidney ability is measured to excrete various substances such as creatinine, inulin, xylose and sodium ferricyanide. The creatinine clearance in particular is a very good measure of the glomerular activity in the kidney since this substance is not reabsorbed or secreted in the tubule.

Evaluation of Kidney Function Tests

We have not used all of the above tests sufficiently in this hospital to estimate their value, and for those which are used, I have not had the time to consider a lengthy series of cases and report to you on the results, so I shall have to give you the opinions of a few workers who have done what I have not.

For routine use, Platt⁵ employs only blood N.P.N. and a concentration test. He advises that the Volhard concentration test (similar to the Mosenthal) is a very sensitive measure of early kidney insufficiency and that N.P.N. values tell how far this damage to kidney function has progressed. Edematous nephritis, according to him, is due to decreased glomerular filtration. The urine is usually concentrated well and there is no nitrogen retention. Uremic nephritis, on the other hand, is due to increased glomerular filtration and lack of reabsorption in the tubules. There is fixation of specific gravity and N retention.

Gradwohl and Scherck⁶ have reported on the use of the B.U.N. and P.S.P. tests in urological conditions. They found that when they disregarded a low P.S.P. test in the presence of a normal B.U.N. their operative risks recovered uneventfully. The P.S.P. was sometimes normal when the B.U.N. was raised and these cases did not do well postoperatively. In general, they consider a P.S.P. test occupies a subordinate position. If it is low it is much more significant than when it is normal.

Frothingham, Fitz, Folin and Denis⁷ used P.S.P. and N.P.N. as measures of kidney function after experimental uranium nitrate nephritis in rabbits. They found that the P.S.P. test measures only the action of the kidney for the moment, while the B.U.N. or N.P.N. is a better estimate of the kidney's ability to function.

Freyberg⁸ recently has compared urea clearance, 15 min. P.S.P. excretion and the Lashmet-Newburgh concentration tests. He advises that the last of these three is the most sensitive test for kidney function except in the presence of loosely held edema. He objects to the urea clearance on grounds which I do not believe have much weight, since he claims to have obtained low values with less than 20 c.c. per hour secretion of urine, and suggests there is much chance of technical error in the performance of the clearance test. He states that B.U.N. figures measure only the ability of the kidney to excrete solids.

Van Slyke and coworkers⁹ have done probably the most extensive work with the urea clearance test. They have compared it with the other tests on large series of cases. They find it a more sensitive test of kidney function than the P.S.P. excretion or the B.U.N. values, and serial studies on various cases show that changes in P.S.P. and B.U.N. occur later than changes in urea clearance with inception of kidney disease, and that return to normal is more rapid for P.S.P. and B.U.N. than for urea clearance during recovery.

From this small review of a few reports it becomes evident that many factors must be considered in the evaluation of kidney function tests.

As early as 1904 Widai and Javal¹⁰ noted that B.U.N. could be normal in the presence of marked kidney insufficiency provided the patient was on low nitrogen intake, yet *this point is often overlooked in hospitals today*. In the evaluation of B.U.N. values only, it is very important that the various factors which have to do with the level of the B.U.N. be considered. These factors are protein intake, liver disease, state of hydration in the tissues, and last but not least, blood pressure. Thus, a B.U.N. of greater than 15 does not necessarily mean insufficiency, since the same picture may be given in the presence of extra-renal factors such as increased tissue break-down as occurs in fevers, or decreased blood pressure as in cardiac decompensation, and a B.U.N. of less than 15 does not rule out kidney insufficiency, because it may be due to decreased protein intake, diuresis, or decreased urea formation.

My own feeling is that the urea clearance is the most sensitive test and the one which corresponds best to the physiological mechanism, but that it should only be used in cases where B.U.N. is normal and other tests give questionable evidence for or against suspected kidney disease. A urea clearance of less than 50% should always be taken as definite evidence for kidney insufficiency.

For routine use some form of concentration test and the determination of B.U.N. usually give the information which the surgeon requires in evaluating his risks. An explanation should always be sought for fixation of the specific gravity of the urine at low figures and an explanation is also necessary for every B.U.N. which exceeds the normal upper limit of 15 mg. per 100 c.c. of blood.

Physiology of Liver

Besides the numerous functions, which by experimental work have been ascribed definitely to the

liver, this organ seems to be the scape-goat of medical science, and all physiological processes which cannot be proven to occur in other organs are attributed to the liver. Some of the functions of the liver are as follows:

1

EXCRETION:—Excretion of pigments derived from blood, cholesterol and dye stuffs.

2

SECRETION:—Bile salts for digestion (emulsifying action on fats).

3

METABOLISM:—Desaturation of fats, formation of phospholipids, storage of glucose, deamination of amino acids, urea formation, serum protein synthesis, conversion of fat and protein to glucose, formation of bile pigments from old hemoglobin, formation of enzymes which act in intermediate metabolism such as arginase, guanase, etc., detoxication of drugs and poisons.

As numerous as the functions which the liver performs are the tests which have been utilized by various workers as measures of hepatic function.

Tests of Liver Function

1

ICTERIC INDEX AND QUANTITATIVE VAN DEN BERGH:—Normal limits for the icteric index are 2 to 6. For latent jaundice values are 6 to 16, and above 16 clinical jaundice is almost always present. The icteric index is a measure of the yellow color of the serum, and in the absence of yellow pigments such as carotin, this is all due to bilirubin. Sometimes there is a slight discrepancy between the icteric index and quantitative Van den Bergh (specific for bilirubin) because part of the bilirubin exists in a colloidal (?) form which does not color the serum, but in general the quantitative Van den Bergh in mgms. per 100 c.c. of serum is about 1/10 of the icteric index value. After 48 hours on diet free from carrots and beets, any pseudoicterus due to carotin is absent. This test measures only retention of one of the excretory products of the liver and tells nothing about the process.

QUALITATIVE VAN DEN BERGH:—This test attempts to distinguish the source of increased bilirubin in blood serum. The immediate direct reaction is indicative of obstructive jaundice while the delayed reaction is indicative of hemolytic jaundice. However, in actual practice, where the icteric index is high the qualitative Van den Bergh always

gives an immediate direct reaction, and biphasic reactions are usual with slightly increased bilirubin. The biphasic reaction indicates a combination of hemolysis and obstructive jaundice and would be of little value.

3

CHOLESTEROL:—Serum cholesterol values, when not affected by metabolic processes such as hypertension, thyroid dysfunction or fever, are a measure of liver function. Thus, values below the normal of 140-220 mg. per 100 c.c. are found in extensive parenchymatous disease of the liver. In obstructive jaundice, cholesterol values are raised by a long standing obstruction, but they may be normal in early cases or in incomplete obstruction.

4

SERUM PROTEIN:—Since the liver is the site of formation of serum proteins, an estimation of these reflects one phase of liver activity. In the presence of liver damage serum proteins are below the normal of 6-8 gm. per 100 c.c. This is the explanation for peripheral edema that is often associated with liver damage.

5

UROBILINOGEN IN URINE:—This is high in increased blood destruction by the liver and low in obstructive jaundice. It is formed from the bilirubin absorbed through the intestinal wall and thus would be low in cases with clay colored stool where the bile is not excreted normally.

6

VARIOUS NON-SPECIFIC TESTS:—Two of these which have been proven to be of no value in this hospital and to depend only on changes of chemical constituents which are not pathognomonic of liver disease are the Takata-Ara¹¹ test on blood serum and the Rosa¹² reaction on urine.

7

DUODENAL DRAINAGE:—Careful collection and examination of the various bile fractions by means of duodenal intubation can be of value in the estimation of liver disease. The presence of pigment and cholesterol crystals are of some value in diagnosing presence of stones in the gall bladder.

8

GALACTOSE TOLERANCE:—For this test the patient is fed 40 grams of galactose and given 200 c.c. of water to drink. Since the liver ordinarily converts galactose to glucose and since galactose is an abnormal sugar it would be excreted by the kid-

neys. The excretion of galactose during a period of five hours after ingestion is a measure of liver function. The normal excretion is not more than 3 grams of galactose. It is important that urine collection be accurate and that the urine be preserved to prevent bacterial decomposition if the determination is not carried out at once.

9

DYE EXCRETION:—After the injection of standard amounts of Bromsulphonphthalein or Tetrachlorphthalein the liver removes these from circulation within a certain limit of time. Thus, normally not more than 5% of the standard dose of Bromsulphonphthalein remains one-half hour after injection and none remains one hour after injection.

10

HIPPURIC ACID EXCRETION:—When benzoic acid is fed, the liver conjugates this with the amino acid glycine to form hippuric acid which is excreted by the kidney. Hippuric acid is a normal constituent of urine after eating cranberries, which contain benzoic acid. For this test 6 grams of benzoic acid and 200 c.c. of water are given to the patient and the urine excreted during the next four hours is collected for determination of hippuric acid. Normal individuals excrete 3 grams of the benzoic acid as hippuric acid. In parenchymatous disease of the liver, less than 3 grams is excreted. Excretion varies according to surface area so that the normal variation is from 85-115% of 3 grams.

Evaluation of Liver Function Tests

Greene, Bercovitz and Hanssen¹³ in 1935 reviewed recent developments in liver physiology and liver tests. They found that the galactose test was the best of the carbohydrate tests, though it must be evaluated along with other determinations. They found cholesterol raised in obstructive jaundice and low in marked liver damage. Total protein of serum was usually low and the A/G ratio sometimes lowered in marked liver damage. They also refer to various workers who have shown that phosphatase is high in cirrhosis of the liver, obstructive jaundice and hepatitis, but normal in hemolytic jaundice.

Magath,¹⁴ in a series of cases, found that the Takata-Ara reaction was of little value and that the Van den Bergh was a slightly better test.

Snell and Plunkett¹⁵ reported a series of cases comparing dye excretion, hippuric acid and galactose tolerance.

They found that the hippuric acid test, as sug-

gested by Quick,¹⁶ correlated well with the condition of livers examined at operation and at autopsy. They found it especially useful in jaundice where dye excretion cannot be used and in non-jaundice cases where galactose tolerance is of little value.

Quick¹⁶ has extensively investigated the hippuric acid test which he advocated as a liver function test and considers that cases with less than 50% excretion are very poor operative risks.

Bensley¹⁷ concludes that the galactose tolerance test is significant only when excretion is greater than 4 grams.

It is interesting that Hunt,¹⁸ in a study of bile drainage, found pigment and cholesterol crystals in 20% of presumably normal cases and in 77% of proven cholelithiasis cases.

To properly evaluate liver function, one must be able to consider the results of several of the known tests since no liver test is entirely satisfactory. The hippuric acid test seems to be the most satisfactory one devised as yet and the little experience we have had with it in this hospital seems to indicate that it will be of definite value, while we must consider the galactose tolerance test of lesser importance since all of the tests run on various types of cases in this hospital have shown nothing definitely abnormal. Bromsulphonphthalein excretion, with which I have had no experience, seems somewhat like the P.S.P. excretion test of kidney function since it is a dyestuff foreign to the human body. Deep jaundice interferes with the reading of the test.

Conclusion

Some of the more important kidney and liver function tests are considered and submitted with suggestions for your evaluation in the clinic.

For kidney function a concentration test and B.U.N. determination will evaluate operative risks. P.S.P. excretion sometimes adds to the story but is of lesser value. Urea clearance tests, which are very sensitive tests of kidney function, should only be used when other tests do not prove a suspected insufficiency.

No liver function test is entirely satisfactory but a good estimate of the condition of the liver can be gained from consideration of icteric index, urobilinogen in urine, serum cholesterol and protein values and a hippuric acid excretion test. Repeated studies are better than single observations.

Interpretation of kidney and of liver function tests should always depend on careful weighing of all factors involved.

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General Laws of R. I. 1923**CHAP. 365. SEC. 33**

If the estate of a decedent is insufficient to pay his debts, the same, after deducting the charges of administration and such property as is set off and allowed to the widow and family, shall be applied to the payment of his debts and charges in the following order:

First. The necessary funeral charges of the deceased.

Second. The necessary expenses of his last sickness.

Third. Debts due to the United States.

Fourth. Debts due to this state, and all state and town taxes.

Fifth. Wages of labor performed within six months next prior to the death of such deceased person, not exceeding one hundred dollars to any one person.

Sixth. Other debts filed within six months of said first notice.

Seventh. All other debts.

If there is not sufficient property to pay all the debts of any class, the creditors of that class shall be paid ratably upon their respective claims; *and no payment shall be made to creditors of any class until all of those of the preceding class or classes have been paid in full.*

WHY PEOPLE MISBEHAVE

HUGH E. KIENE, M.D.

DIRECTOR OF PSYCHIATRIC DEPARTMENT,
CHARLES V. CHAPIN HOSPITAL, AND

PHILIP SOLOMON, M.D.

THE EMMA PENDLETON BRADLEY HOME,
EAST PROVIDENCE, R. I.

Why do people misbehave? Those of you who are fathers and mothers doubtless have a particular interest in this problem, for children who never misbehave are not common. We live in a complex modern world, and it is a rare child indeed who does not often bump up against our adult ideas of law and order. But before speaking of misbehavior let us consider for a moment behavior in general.

The problem of behavior is as old as mankind. For untold centuries, its study and control lay primarily in the hands of the church. Social conventions, of course, existed but it was the high priest who dictated the ultimate right and wrong. In later years, the state began to take over much of the supervision of human behavior. The law, with policemen to enforce it, became the chief instrument of controlling individual conduct. But the last hundred years has seen a remarkable change in our civilization. One factor, previously almost unknown and insignificant, has grown steadily until it now occupies a leading position in all human relations. I refer to the progress of science. Science today is playing an increasingly important role in every human institution. Its contributions to the happiness of mankind are already beyond measure. What, then, has the scientist to say about human behavior?

Scientists have been interested in human behavior from a number of points of view. It has been an object of major attention in sociology, anthropology, criminology, psychology and about every other "ology" you can think of. But this afternoon, we are speaking to you from the point of view of the physician. You may ask, "What has the physician to do with behavior? His job is just to get us well when we are sick." The answer is this: Certainly the physician is interested in your physical health, but he is concerned with more than that. He is interested in your mental and emotional health as well. The goal of the modern doctor is not only a

A Sunday afternoon address, delivered at the Medical Library, November 15, 1936, under the auspices of the Committee on Education of the Rhode Island Medical Society.

healthy patient but a *happy* one. It is just here that misbehavior comes into the picture, because the individual who misbehaves is by and large destined to be a very unhappy person.

The branch of medicine that is particularly interested in such unhappy individuals is called psychiatry. You may have thought that the psychiatrist dealt only with cases of insanity. Let me assure you that by far the greater part of the average psychiatrist's practice is made up of persons in whom there is no suspicion of insanity, but whose lives have become miserable because of some subconscious conflict or other emotional disturbance. In these cases, and especially in cases where misbehavior has become a habit, the physician who specializes in psychiatry utilizes the modern equipment of science and is often able to discover the cause or causes, the correction of which contributes enormously to the happiness of the patient.

Dr. Kiene and I are going to describe for you authentic cases from our own experience in whom misbehavior has been the major issue. I shall tell you about children. Each of them has been studied at the Emma Pendleton Bradley Home in East Providence. As you may know the Bradley Home is a new institution, which does not have its counterpart anywhere in the world. Its sole purpose is the study and treatment of children who have normal intelligence but are the victims of nervous, emotional or mental conditions that render them a problem to themselves, their families or the community. Here, children who come from all over the Eastern States, are placed in an environment which is as nearly perfect as any you could imagine. It attempts to combine all the best features of the modern school, hospital, and home. But you will better understand what this means by hearing how it functions in actual cases.

The following cases were given in detail in the radio address, but have been condensed to conserve space in publication.

Jimmie, twelve, was referred to the Bradley Home because of frequent episodes of stealing, and extreme backwardness in school. On examination it was found that his vision was unusually poor. When glasses were prescribed, the boy learned rapidly, and no longer had to compensate for his marked inferiority in school by feats of bravery in the form of thieving.

Cases like Jimmie's are not uncommon. Children with marked physical handicaps suffer exceed-

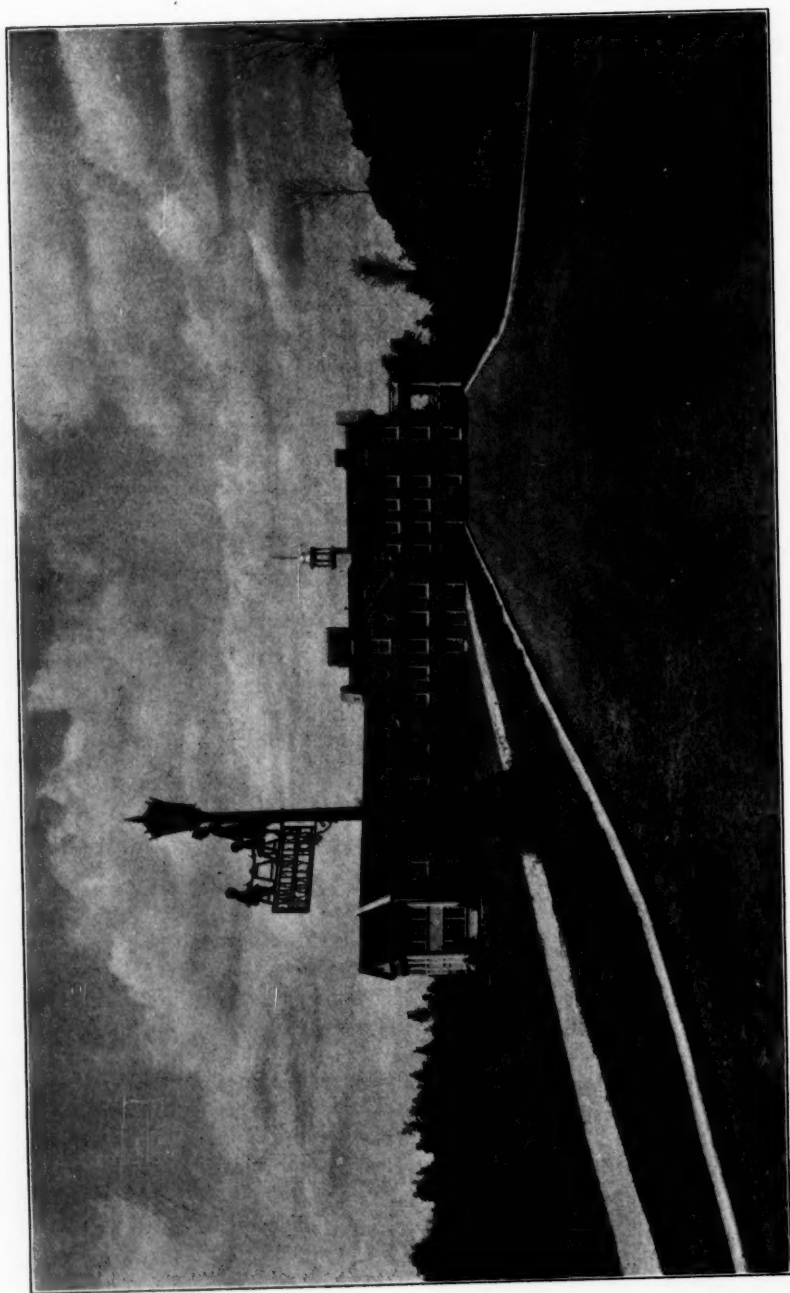
ingly from feelings of inferiority. Failing to keep up with their mates inside the bounds of acceptable behavior, they are spurred on to daring deeds which serve to bring them some share of satisfaction and recognition. It is unfortunate that this type of case may go for years without having its true nature recognized. Early medical attention in such a case can prevent unacceptable habits of behavior that later in life might be difficult or impossible to remedy.

Billy, ten, was a normal boy to the age of eight, when, without apparent reason, he began to misbehave badly in school and at home. On investigation it turned out that Billy was unhappy because of a sordid home situation, involving a recently acquired selfish stepmother, her bad-tempered father, and convict brother. At the Bradley Home, Billy became very proficient in sports, and began to catch up in his school work. It took eight months of personal interviews, however, before he finally blurted out his hatred for his stepmother. His improvement was then rapid and he was soon discharged to a foster home.

Tommy, eleven, had been destructive, disobedient, hyperactive, impulsive, and stubborn all his life. Some days, however, he would be perfectly good, and on other days terrible. There seemed to be no reason for these cycles. When delinquencies occurred, the family physician sent him to the Bradley Home.

Tommy was found to be large for his age, well muscled, and in good apparent physical health. An investigation of the family by the social worker revealed some interesting information. Five near relatives on the father's side had had convulsions in infancy, and were said to have been behavior problems similar to Tommy later in life. Three of Tommy's sisters and brothers had had convulsions in infancy. Tommy himself had had convulsions two or three times a month from the ages of eight months to three years. Since then he had had a number of nightmares in which he would scream aloud and afterwards seem confused, but he had no other attacks of any kind. The significance of this data will become clear a little later.

At first we had quite a time with Tommy. He was very rude and used profanity toward the attendants, "sassd" the nurses and was impolite to the doctors. He leered, scowled, defied all authority and tried to bully the smaller children. He felt inferior in group activities since he did not know any of the games,



The Emma Pendleton Bradley Home

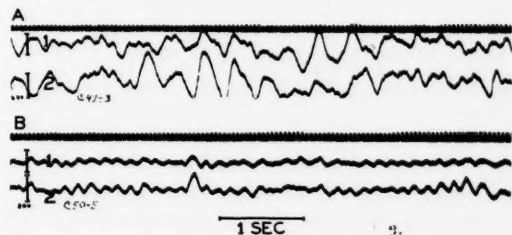
and compensated by making many boastful threats. He was antagonistic toward any suggestions, and in the personal interviews with the physician boasted that no one could get anything out of him.

On the ward he was very hard to handle. Once he refused to go to the dental clinic, and tore his shirt. When he found that he still had to go he cried, shouted, and swore violently, but went. Another time he ran away from the hospital. When he was returned he was quite obviously surprised and disappointed that no fuss was made over him and that he was not even punished. Some weeks later he ran away again. This time he persuaded an intellectually inferior child to go with him. The two then went to Tommy's home and attended a show with tickets given them by Tommy's brother. They returned to the hospital about midnight. The next morning the situation was discussed with Tommy and the seriousness of involving the other child was pointed out to him. It was explained that for this reason and because of the considerable inconvenience he had caused the staff, he would have to be severely disciplined. But Tommy took discipline very well.

After a few months there was a noticeable improvement in Tommy's behavior. He made a good contact with one of the psychiatric workers and began to confide in her. His boasting diminished and he showed good insight into his personality difficulties. The one thing that did not change was the peculiar fluctuation in his behavior from day to day. In school about two days out of every week he was so confused that trying to teach him anything at these times was profitless.

About this time, a new instrument was built at the Bradley Home by Dr. Herbert H. Jasper and Dr. Howard L. Andrews of Brown University. This is the electro-encephalograph, which records the electrical activity of the brain, in much the same manner that the electro-cardiograph records the electrical activity of the heart. This instrument became important inasmuch as during epileptic attacks very marked changes occur in the brain waves. Moreover, it was found that the abnormal waves, called "seizure waves," often appeared *between* attacks in epileptic individuals. We therefore had a way of diagnosing epilepsy without the necessity for observing attacks. Now, the strange and exciting discovery that this instrument permitted us to make was this: When we took brain wave records on Tommy who was not suspected of

having epilepsy, we found the same "seizure waves" that epileptics have. What is more, on the days when Tommy did poorly in school and seemed especially bad-tempered, his brain record was full of "seizure waves," while on good days when he was well behaved, his brain record was perfectly normal! Here, then, was the explanation for Tommy's peculiar behavior. We had come upon a new and unsuspected cause for misbehavior. It had previously been recognized that some epileptic individuals behave badly after their attacks. In fact, many crimes, even murders, have been committed under these circumstances. But that a child who was not regarded as an epileptic could have the same brain disturbances and the same type of behavior was something not considered before. Later, I shall show you lantern slides of Tommy's brain waves (see figure), but now we will leave the behavior problems of children and proceed to the discussion of misbehavior in adults. Dr. Kienē will describe some interesting cases for you.



LEGEND FOR FIGURE

Tommy's brain waves: A. On a "bad" day (see text). B. On a good day. Lead 1 in both records was taken from an indifferent ear electrode to the vertex of the head; lead 2 simultaneously from the same indifferent to an occipital electrode. For technique, see Jasper, H. H. and Andrews, H. L., *Jour. Gen. Psychol.*, 1936, 14:98-126.

The time line at the top of each record represents 1/20 seconds. The calibration lines under the letters "A" and "B" represent the excursion produced by a signal of 200 microvolts.

Record B shows normal "alpha" waves; record A shows large 3 a second "seizure" waves.

Similar problems to those mentioned by Dr. Solomon are also found in adults. Much understanding of adult misbehavior can be obtained by comparing it to the usual behavior of a child. "He doesn't act his years," as often heard, has basis in fact. The process of "growing up" is an important one and the unusual symptoms mentioned in con-

nection with the problems of the following people are evidence of a failure in "growing up." "Growing up" is retarded by such happenings as sickness, abuse which can be both physical and mental, and overprotection by not allowing the child to acquire knowledge pertaining to life which he must know when he is "grown up."

Treatment of the person who has failed to "grow up" can be handled satisfactorily by the physician if the problem is presented to him early enough.

The four people whose stories I am now to present indicate the importance of early medical treatment.

Alice is a young woman who was brought to the hospital because she was wayward, delinquent, and had threatened suicide. This misbehavior began early in life and was, to a great extent, due to a hip injury which she suffered as a youngster. Alice was neglected in early life in that the hip injury which she sustained was not given medical attention. She developed an inferiority feeling because of her resulting limp. Her attempts to compensate by lying about others brought her only trouble and unpopularity. Her mother sympathized and overprotected her, which made matters worse. As she grew older she was a problem wherever she went. Once she untruthfully accused a man of assaulting her. She quit one job after another, always going to her mother for sympathy.

As she became unpopular with respectable people, due to the embarrassment she caused them through her lying, she began to associate with men and women of low moral character, leading to the birth of several fatherless children. She contracted a social disease requiring hospital care for a time.

The police became interested when her employer reported Alice to them for charging merchandise to the employer's account. Her family paid for the merchandise but when the same offense was repeated time and time again, Alice was taken to a physician who realized her misbehavior was due to mental illness and arranged for proper treatment.

Prevention of this misbehavior could have been accomplished by proper medical treatment of the hip injury at the time of its occurrence.

Albert was apprehended by the police because of improper advances to a woman on the street. He had been a perfectly normal, happy husband and father until 1918 when he contracted sleeping sickness during the influenza epidemic. His personality changed, and he became irritable and unable to

work. His wife, not understanding what was going on, left him. Albert was regarded as a bad man instead of a sick one. Proper medical handling restored Albert to a more tolerant, understanding home, and misbehavior was not repeated.

Joe, as a boy, developed bad teeth because of the lack of dental attention. As he grew older, the infected teeth caused him to have severe headaches. Soon Joe began using a certain drug which was advertised as a panacea for all headaches regardless of cause. As time went on, he was forced to use more and more of the drug, until finally he was using enormous doses. Joe felt that he "just couldn't get along without it." It was not long before there were obvious changes taking place in Joe's personality. Because of his irritability his wife left him. Gradually his physical and mental health failed. He had to stop work and stay in bed most of the day. He became confused, hazy, and forgetful. At times he thought he heard voices, and he imagined all sorts of strange things. When a doctor was called, blood and spinal fluid tests were taken and it was found that Joe was being poisoned by the medicine he had been buying by himself in the drug store. Proper treatment was started immediately and eventually Joe recovered. It was only after all this, instead of long before, that Joe had his teeth looked after.

Jane was described as a lazy, worthless young woman. She complained of eye trouble, had vomiting spells, slept poorly, and was easily fatigued. When the situation was investigated by a physician it was found that Jane was not really bad, but was the victim of circumstances. She was being hounded by a vicious former employer, and her anxiety was at the root of all her symptoms and misbehavior. With the help of a social worker, the physician was able to straighten things out, and Jane became a healthy, hard-working, independent young woman.

In conclusion, we wish to emphasize the main points covered. Misbehavior in both children and adults does not just merely happen, but is due to definite causes. These are numerous and include physical defects, poor environment, various diseases, improper and unsupervised use of medicines, and many other causes that can be evaluated by the physician. Our job as physicians is to discover these causes and correct them; your job as intelligent laymen is to refer these problems to us for help before they become too serious.

THE RHODE ISLAND MEDICAL JOURNAL

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ALBERT H. MILLER, M.D., *Editor*
28 Everett Avenue, Providence, R. I.

CREIGHTON W. SKELTON, M.D., *Business Manager*

Associate Editors

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CHILD HEALTH SERVICE UNDER THE SOCIAL SECURITY ACT

The Social Security Act, under Title V, provides in part as follows: "For the purpose of enabling each state to extend and improve—services for promoting the health of mothers and children—there is hereby authorized to be appropriated for each fiscal year—\$3,800,000." This money is to be distributed among the states if their plans are approved by the Chief of the Children's Bureau. The states are allowed great freedom in formulating their plans, the main restrictions being that the plans must provide for financial participation by the state, administration by the state health agency, such methods of administration as are necessary for efficient operation, such reports as the Secretary of Labor may require, the extension and improvement of local maternal and child health services, co-operation with medical, nursing and welfare groups, and demonstration services in needy areas.

There is no need at this time to discuss the social significance of the whole act. This particular part supplies an annual sum of about \$34,000 for the improvement of maternal and child health service in Rhode Island. There is no reason to doubt that it is possible to spend this comparatively small sum usefully in increasing educational and public health activities, without encroaching on the field of private practice or developing state medicine. It is also probable that other groups will bring pressure to bear to have activities financed that we do not consider proper or useful.

The act requires co-operation with medical groups. It would seem that the interest and the duty of the medical profession would best be served by the appointment of a Child Health Relations Committee of the Rhode Island Medical Society to enter into these plans. Such a committee, if active

and wise, would have a double function. It could advise the State Health Department in the development and administration of the work, and its approval of the plans would be of considerable help in gaining the co-operation of the physicians in the areas where the work is being done.

We definitely urge the appointment of such a committee. It would be well if the committee were largely composed of pediatricians, as the discussions of the administration of child health services under the Social Security Act are chiefly at the meetings of the Academy of Pediatrics and in the pediatric literature. Dr. McLaughlin and Dr. Gleason would welcome such action by the State Society, as it would strengthen their hands and make their task easier and more effective.

SYPHILIS AND THE STATE

Some thirty years ago the populace of this country were taken aback by propaganda for the control of a disease that was only mentioned in whispers—tuberculosis. The resistance of the press being overcome, education on prevention commenced. The success of this campaign is today accepted almost as matter of fact. We are now living in the early days of another campaign—a battle against another disease whose name was forbidden in every newspaper of this country till within the last year. The breaking down of this ridiculous attitude on the part of the radio and the press is largely due to the untiring efforts of Dr. Thomas Parran, Jr., our new surgeon general. Unlike tuberculosis, medical science has a specific treatment for syphilis, a treatment which actually is cheaper for the patient to purchase than that for tuberculosis.

Dr. Parran has in mind principles of attack that are well founded and will undoubtedly prove efficacious. However, there are certain aspects of the problem that should be debated promptly. The medical profession is hearing much about socialization of medicine, and most of the attack is coming from the lay press. We are not surprised to learn that there is an element within the profession in favor of socialization, but we are shocked to realize that they are depending on this program to further their cause. At a recent Regional Conference on Social Hygiene in New York, to which, incidentally, Dr. Parran gave an address, it was urged that free venereal clinics be established as an integral part of

this plan. Of course, the word "free" is not really the correct word. Better would it be to say—a clinic supported by the taxpayer. From the patient's standpoint every one agrees that he receives the best treatment at the hands of his personal physician. The dreary monotonous impersonal routine of a clinic is all too well known to every physician, and we know how dissatisfied many patients are. And we know from the standpoint of public health that the private physician can treat just as efficiently as the clinic, too. This has been demonstrated in the past where the physicians have been educated. But there is still another angle. The physician is still a taxpayer in America. If statistics are correct that 10% of the population have venereal disease, and this 10% are to be treated largely by free clinics—that is, clinics maintained by the taxpayer—then the physician will indeed find himself assaulted from two sides. For his income will be reduced by removing a portion of his practice, and his taxes will be raised to support this program. It seems much more reasonable to approach this problem somewhat as the Wayne County Medical Society did that of diphtheria control a few years ago. The drugs could be supplied at minimum cost by the State. In the case of the indigent patient, a small remuneration could be given the physician for his time. Although definite information is not at hand, it almost seems self-evident that this procedure would be cheaper in the long run to the tax-payer, and much more satisfactory to all concerned. In the meantime, action is needed, and needed quickly if the physician's present status is to be maintained. The Rhode Island Medical Society should be among the first to express itself on this subject.

RADIO ADVERTISING

The radio announcer who solicitously urges us to hurry out to the corner drug store and get a bottle of Pipp's Panacea for Piles and Pimples is not really interested in the state of our health; he just needs the money. Radio exploitation of the credulous succeeds because this evident fact is not appreciated.

A mother of four children whose husband earns \$15.00 a week, notes that she spends \$1.00 a week—\$52.00 a year—on a radio advertised "antiseptic." Each child gargles every day in the hope to ward

off colds. This multiplied by thousands of cases gives one an idea of the millions wasted every year on worthless "antiseptics" that were never known to kill a germ.

We hear about antiseptics galore, vitamin cough drops, all sorts of "pure" bread—anything you wish. And the public believes what it hears over the radio. So far there is no known prevention for colds but if we believe what we hear we can go to the druggist and stock up on "anti-cold" preparations.

While we are on the subject of antiseptics, Robert Nye has recently shown in *The Journal A. M. A.* (108, 280, Jan. 22, 1937) that tincture of iodine, 1 part in 50 parts of water, is more efficacious than most other preparations, and much less expensive.

Someone once said that the law prohibiting spitting on the sidewalks in Rhode Island presented little difficulty because with a little practice one could spit over into Massachusetts. Along this line the radio medical "specialist" who was prohibited from broadcasting his stuff over American radios, now pours it out from a powerful Mexican station.

The public should be protected against fake medical preparations. The physician can help by keeping the A.M.A. "Nostrums and Quackery" on his waiting room table. There should be some law to prohibit medical preparations or treatments from being advertised in any publication or on the radio unless they are approved by medical science. A modern democracy demands this sort of protection for those who need it. It might be well to write to our senators and representatives in the hope that something may be done.

FOR WHOSE BENEFIT?

Every proposal for change in medicine should be tested with the question: "For whose benefit?" Unless the change will help, either directly or indirectly, in the fight against disease and death, it cannot be justified. The fact that it may increase the income of physicians, help pay the interest on hospital investment, or provide salaries for a body of administrators, unless it will also improve medical service, is no justification. This is a simple test, but applied strictly to many of the proposals for medical changes before the public at the present time it would elicit a verdict of condemnation.

—*Jour. A. M. A.*, Feb. 20, 1937.

PAWTUCKET MEDICAL ASSOCIATION**Minutes of the Annual Meeting**

At the Annual Meeting of the Pawtucket Medical Association on March 18, 1937, a banquet was held at the Slater Hotel in Pawtucket, R. I. Fifty-four members and guests attended. Two new members were elected: Dr. Francis L. Burns, associate, and Dr. Natalie Kechijian, a regular member. The application of Dr. Omar Massie was presented. Dr. Charles L. Farrell, as toastmaster, introduced Mr. John Halloran, Manager of the American Telephone and Telegraph Company, guest speaker. The address was supplemented with sound movies. Dr. Roland Hammond represented the State Society. The following officers were elected:

President—E. A. Cormier.

Vice President—Charles L. Farrell.

Secretary—Thad. A. Krolicki.

Treasurer—Earl J. Mara.

Standing Committee—E. M. Clarke, J. Lincoln Turner, Henry F. Hanley, Earl F. Kelly, Walter J. Dufresne.

Ethics Committee—James L. Wheaton, Charles H. Holt, John F. Kenney, Earl F. Kelly.

Library Committee—George J. Howe, Earl J. Mathewson, J. Brewer Marshall.

Delegates—Stanley Sprague, G. Raymond Fox, Robert T. Henry, Earl F. Kelly.

Councillor for 2 years—Charles H. Holt.

Respectfully submitted,

THAD. A. KROICKI, M.D.,
Secretary.

PROVIDENCE MEDICAL ASSOCIATION**Minutes of the March Meeting**

The regular monthly meeting of the Providence Medical Association was called to order by the President, Dr. Peter Pineo Chase, Monday, March 1, 1937, at 8:30 P. M. The minutes of the last meeting were read and approved.

The Secretary read two communications from the Rhode Island Medical Society. The first of these announced a change in the by-laws whereby termination of membership in a district society would automatically result in termination of membership in the State Society. The second communication concerned a proposal to increase membership in the State Society. This was referred to the Standing Committee for consideration.

Their applications having been approved by the Standing Committee, the following were elected to membership: William John Schwab, Louis Davis Lippitt, Marion A. Gleason, Ernest Allen Burrows.

The Secretary read an obituary on the late John G. O'Meara, prepared by Drs. Richard F. McCoart and Charles A. Gannon. It was voted to spread this on the records and to send a copy to the family.

The President reported the death of Dr. Charles F. Deacon, Treasurer of the Association for the past nineteen years, and appointed Drs. George S. Mathews and D. Frank Gray as an Obituary Committee.

The first paper of the evening was given by Dr. Alex. P. Aitken of Boston and was entitled, "Conservatism in the Treatment of Fractures in the Young." Dr. Aitken stated that about 95% of fractures at the epiphyseal line involve a shearing off of the epiphysis without injury to it. In such instances malposition of the epiphysis tends to correct itself to a remarkable degree. If, on the other hand, the cartilage plate is broken, deformity results inevitably. The paper was discussed by Drs. Danforth, Hammond and Horan.

The second paper of the evening was given by Dr. Torr Wagner Harmer of Boston and was entitled, "Injuries to the Hand." Dr. Harmer limited himself to a discussion of injuries to tendons and nerves. He reviewed the anatomy of the region and stressed the value of careful pre-operative examination, meticulous repair, and early use of the hand following operation. The paper was discussed by Drs. Cameron and Danforth.

The meeting adjourned at 10:35 P. M. Attendance 96. Collation was served.

Respectfully submitted,

FRANK B. CUTTS,
Secretary pro tem.

WASHINGTON COUNTY MEDICAL SOCIETY

At the annual meeting of the Washington County Medical Society, held January 13, 1937, the following officers were elected for the ensuing year:

President—Dr. Walter J. Grenolds, 9 Elm Street, Westerly.

First Vice-President—Dr. Louis C. Cerrito, 1 Pleasant Street, Westerly.

Second Vice-President—Dr. William F. Thompson, Washington Trust Bldg., Westerly.

Secretary and Treasurer—Dr. John Champlin, Jr., 3 Granite Street, Westerly.

Auditor—Dr. Samuel C. Webster, 99 High Street, Westerly.

Censor—Dr. John Paul Jones, Wakefield, R. I.

Dr. William P. Buffum of Providence then addressed the Society on the subject "Allergy." There was a full attendance at the meeting, which was held at 11 A. M. at the Westerly Hospital. Collation was served.

Respectfully submitted,

JOHN CHAMPLIN, JR., M.D.,
Secretary.

WOONSOCKET DISTRICT MEDICAL SOCIETY

At the Annual Meeting of the Woonsocket District Medical Society the following officers were elected:

President—James M. McCarthy.

Vice-President—Francis J. King.

Treasurer—Victor H. Monti.

Secretary—G. G. Dupre.

Delegate—H. E. Gauthier.

Counselor—W. C. Rocheleau.

Censors—Auray Fontaine, H. Lorenzo Emidy.

The Society holds meetings every other month, beginning in October.

LOCAL EVENTS

February 23. The regular monthly meeting of the Malpighi Medical Club was addressed by Dr. F. A. Simeoni, on the subject "Reynaud's Disease and Desensitization of the Neuro-effector System." Dr. Simeoni is Research Fellow at the Department of Physiology of Harvard Medical School. At the January meeting, Dr. Rocco Abbate spoke on "Protein Insulin in Diabetes."

February 24. The regular monthly meeting of the Jacobi Medical Club was held at the Miriam Hospital Annex at 8:45 P. M. Dr. Russel Bowman, Bio-chemist at the Rhode Island Hospital, gave a talk on "Laboratory Aids in Clinical Medicine."

March 7. The Sunday afternoon lecture at the Medical Library Building was attended by more than 375, an audience which not only filled all avail-

able seats but taxed the standing-room capacity of the auditorium. The speakers were introduced by Dr. Russell S. Bray, Chairman of the Committee on Education. The subject was "Cancer—Facts and Fancies." Dr. James A. McCann, the first speaker, immediately interested the audience with a statement of the increasing prevalence of cancer. He gave the origin of the words "tumor" and "cancer" and pointed out the difference between the two conditions. He outlined the precautions indicated by the precancerous stage and the treatment required for the cure of developed cancer. Surgical removal of the growth, radium and the X-Ray are the only efficient measures. Drugs, serum, and cancer pastes have done little good but a great deal of harm. Dr. McCann is impressed by the progress in cure of cancer during the past ten years as almost unbelievable. Dr. Herman C. Pitts was the second speaker. After reporting the great interest manifested at the recent meeting of the American Society for the Control of Cancer, he mentioned the success with which the great plagues of past ages have one by one been overcome and cited cancer as the plague remaining and increasing in prevalence. He described the fight against cancer waged in Rhode Island during the past ten years. Of the 3,000 cancer victims, a half must be treated in charitable clinics. He mentioned the Rhode Island Hospital, among hospitals of the State intended for the treatment of acute conditions, as never having refused admission to a cancer patient. Dr. Pitts finally appealed for support of the campaign against cancer which the Women's Field Army is opening. Following this lecture, the speakers replied to numerous questions from the audience.

March 12. Dr. Wilfred Pickles entertained the William W. Keen Medical Club. Dr. George W. Waterman read a paper on "Cervicitis—Symptomatology and Treatment." Dr. Waterman favors electro-coagulation, which may largely displace surgery in the treatment of cervicitis.

March 14. The second in the present series of popular Sunday afternoon lectures at the Rhode Island Medical Library was given by Drs. Charles S. Christie and Daniel V. Troppoli on the subject "Headache—Medical and Surgical Aspects." Dr. Christie outlined the common causes of headache, citing eye-strain, sinus infections, dietary indiscretions, and especially modern habits of living. He gave an emphatic warning against the unsupervised use of drugs for headache. Dr. Troppoli described

recent improvements in brain surgery which have greatly reduced its danger. The lectures were carefully prepared and were received with enthusiasm. Attendance 255.

March 15. At the meeting of the Thirty-four Medical Club, Dr. F. Ronchese read a paper on "Scleroderma." A review of the subject was presented, with special reference to etiology and treatment. Then a case was illustrated with wax models and photographs of keloidal scleroderma, or association of atrophy, scleroderma and keloid, which is a very unusual, perhaps unique, combination. Of surgical interest was the involvement of the breast by the process, with dimples, indurations and retractions suggestive of malignancy. A bilateral mastectomy was performed and the pathology was found to be scleroderma and keloid.

March 19. Dr. George L. Shattuck entertained the Friday Night Medical Club. Dr. Charles A. McDonald reviewed "The State Hospital after Two Years." As a sequel to the paper which Dr. McDonald presented two years ago, this subject was of special interest to the club. In his work as Director of various State hospitals, he has kept in mind the three factors: public interest, modern medicine and sound business. Considerable progress has been made in securing co-operation between the State institutions and the general hospitals and medical profession of the State. The work has been complicated by the extensive building program. In the discussion, the satisfaction with which the profession views the results of Dr. McDonald's two year service was constantly evident.

March 21. The third in the present series of popular Sunday afternoon lectures at the Medical Library Building was attended by an audience numbering more than 400. The speakers were introduced by Dr. George L. Young of the Committee on Education. Dr. Charles F. Gormly, the first speaker, chose as his subject, "How to Grow Old Gracefully." He explained that the great increase in population in Europe and America during the past hundred years was due not to an increased birth rate but to longevity increased by the conquest of disease. He cited present control of the diseases of infancy, of diphtheria, malaria, typhoid, tuberculosis, diabetes and pernicious anemia, and emphasized the importance of the new campaign against cancer. Dr. Gormly mentioned a high blood pressure with arteriosclerosis as the principal

impediment to "growing old gracefully." As factors in attaining a graceful old age he recommended a balanced diet, out of door exercise, and especially, busy fingers and a hearty and contented mind. Dr. Henry A. Weyler, second speaker, defined "nostrums," recited the story of thallium acetate, and told of the dangers lurking in cosmetics, headache remedies, obesity cures, and in the unrestrained use of hypnotics. Dr. W. Henry Rivard, Dean of the Rhode Island College of Pharmacy, spoke briefly of the changes in pharmacy in recent years and of improvements in pharmaceutical education which have elevated pharmacy from a business to a profession.

March 24. At the regular monthly meeting of the Jacobi Medical Club, held at Miriam Hospital Annex, Dr. Chester Keefer of Harvard Medical School addressed the club on "Obscure Fevers and their Diagnosis."

March 30. The Malpighi Medical Club was addressed by Dr. Mario Castallo of Bland's Clinic at Jefferson Medical School.

Homeopathic Hospital of Rhode Island

The fourth lecture in the series arranged for the General Staff of the Homeopathic Hospital of Rhode Island was given at the hospital by Dr. W. Richard Ohler, Tuesday noon, March 16—"A Discussion of Certain Medical Problems."

Dr. Ohler emphasized the importance of typing and making blood cultures in all cases of pneumonia to determine the type and whether or not blood infection is present. Such examination gives a guide to dosage of serum and also prognosis in certain types.

Very significant statistics of pneumonia cases in the Boston City Hospital will be published in the near future.

The symptom of congestive heart failure has been found to be due to certain vitamin deficiency in cases of heart disease associated with beriberi.

Under diabetes was given the treatment of acidosis, dehydration and circulatory failure. Old insulin and protamine-insulin were compared, and the difference in shock from the two forms of insulin. The prominent symptoms of shock from old insulin are nervousness, headache, tremor and sweating; from protamine-insulin are stupor, headache, nausea and vomiting. The latter may be the same as coma of diabetic acidosis.

Dr. Ohler recommended an article from the Lahey Clinic in the March 11th issue of the *New England Journal of Medicine* on Thyroidectomy in Heart Disease; also an article on Postural Hypotension in the February issue of *Archives of Internal Medicine*.

Rhode Island Hospital

CALENDAR FOR APRIL, 1937

1. Executive Committee of Staff 12 noon
1. Gynecologic Staff Meeting 8:30 P. M.
2. Urologic Staff Meeting 7:30 P. M.
2. Surgical Staff Meeting 8:30 P. M.
11. Quarterly Meeting of General Staff 12 noon
11. Pediatric Staff Meeting 8 P. M.
12. Clinical-Pathologic Conference 12 noon
12. R. I. Society for Neurology and
Psychiatry 8:30 P. M.
15. Executive Committee of Staff 12 noon
26. Clinical-Pathologic Conference 12 noon
- Mondays and Tuesdays: 10:30 A. M., Surgical
Grand Rounds and Round Table; first and second
divisions alternate
- Tuesdays: 7 P. M., Internes' Pathologic Conference
- Wednesdays: 10 A. M., Tumor Clinic
- Thursdays: 9 A. M., Orthopedic Grand Rounds
- Fridays: 11 A. M., Fracture Rounds; 11 A. M.,
Pediatric Grand Rounds; 11:30 A. M., Heart
Conference
- Saturdays: 10 A. M., Medical Conference

March 5. At the regular monthly meeting of the Surgical Staff, Dr. Nat. H. Gifford presented a case of congenital atresia of the common and cystic bile ducts, amenable to operation, in a patient four weeks old. Choledochoduodenostomy had been performed four days before. A standard nomenclature for operations, following the list of the Western Surgical Association, was adopted.

Dr. Gayton S. Bailey, of Seattle, Washington, and Harvard Medical 1934, who interned at the Rhode Island Hospital from December 1934 to January 1937, on March 1st, 1937, became House Physician. Previous to his doing so, Dr. and Mrs. Bailey paid a visit to his home in Seattle, Washington, and returned to Providence by way of California.

Dr. R. L. Garrard, who interned at the Rhode Island Hospital from 1933 to 1935, has been appointed Superintendent at the State Sanatorium at Wallum Lake. Dr. Garrard had been connected with the institution for about a year.

Dr. Robert G. Murphy has opened an office for the practice of internal medicine at 221 Thayer St.

Dr. Luther McDougal finished his internship March 1st.

Dr. Raymond Moore, of Groveland, Mass., Wesleyan University and Tufts Medical 1937, started internship at the Rhode Island Hospital March 15th.

Dr. and Mrs. Robert Baldrige and Dr. and Mrs. Herman Lawson have returned from a trip to the West Indies.

Dr. William Magill is vacationing in South America.

Word has been received here of the marriage of Dr. Pat Imes. Dr. Imes interned at the R. I. H. during 1928 and 1929. At present he is residing in Louisville, Kentucky.

Word has been received of the birth of a son to Dr. and Mrs. Allan Tuggle. Dr. Tuggle was an intern at the R. I. H. in 1927.

The following former interns at the R. I. H. have been licensed to practice medicine in Rhode Island:

Dr. Henry George Atha, Thomaston, Conn.

Dr. John Stanislaus Dziob, resident physician, Jane Brown Memorial

Dr. Edward B. Medoff, Woonsocket, R. I., at present at the R. I. Hospital

Dr. Thomas A. Martin, Intern, R. I. H.

Dr. Robert F. Nuessle, State Infirmary, Howard, R. I.

Woonsocket Hospital

The regular Staff Meeting was held February 1, with President T. Frank Kennedy presiding.

Dr. Leo Dugas was elected to the Out-Patient Staff.

The Medical Records Committee reported improvement in writing of records and in the caliber of both the Staff Meetings and Clinical Conference.

Dr. J. Edgar Tanguay read a paper on "Dizziness."

A motion picture film on the "Management of Pneumonia" was shown by Dr. Roberts through courtesy of the Lederle Laboratories.

The monthly Clinical Conference was held February 22. Dr. Henri E. Gauthier, Chairman of the Records Committee, presided.

A very interesting case was presented by Dr. G. G. Dupre and discussed by Dr. John V. O'Connor. The diagnosis of this case was not definitely determined but will be further discussed at the next meeting.

Dr. J. B. Riley presented the second case, that of severe Rheumatic Fever in a child of 5 years of age. The discussion was made by Dr. Thomas J. Lalor.

Memorial Hospital

Dr. Thomas P. Sheridan has been appointed to the Pediatric Clinic of the Out-Patient Department.

Plans are underway for the formation of an up-to-date library for the visiting and house staff.

The chiefs of service held a meeting recently to formulate plans for the Interne Alumni Clinic Day together with discussion of ways and means of improving the various clinical services.

Dr. George H. Alexander has been granted a year's leave of absence.

At the clinical pathological conference held on March 10, Dr. E. R. White presented a case of hydrocephalus and tuberculous meningitis. The case was discussed by Drs. E. F. Kelly, J. F. Kenney, A. A. Bertini, E. W. Benjamin, T. A. Krolicki and E. J. Mathewson. Dr. Laurence A. Senseman presented a case of stronglyloides stercoralis found in appendix. The case was discussed by Drs. J. F. Kenney, J. E. Kerney, M. A. Chapian, E. R. White, A. A. Bertini and E. J. Mathewson.

St. Joseph's Hospital

The monthly meeting of St. Joseph's Hospital Staff Association was held at noon on Thursday, March 11. Dr. Oliver Cope of the Department of Surgery of the Massachusetts General Hospital read a paper on the "Significance of Amenorrhoea in Endocrine Diagnosis," illustrated with lantern slides. Collation was served.

Dr. Torr Wagner Harmer of Boston will present a paper on "Hand Infections and Injuries" at the Monthly Staff Meeting, April 8.

The day for Open House—combined rounds of the Medical, Neurological and Cardiological Departments, has been changed to Friday. Rounds will start in the Out-Patient Department at 9:30 A. M., and proceed through the wards.

Dr. William J. Schwab, who completed a two year rotating internship in 1935, has opened his office at 616 Hope Street, Providence, R. I.

Dr. Donald B. Moore, who has recently completed a two year rotating internship, has been appointed as Resident Obstetrician for the coming six months.

Minutes of the Caduceus Club

The monthly meeting of the Caduceus Club was held at the T. K. Club on March 8. The meeting was called to order by President Earl J. Mara. The report of the Secretary was approved as read. On motion by Dr. Kelly, it was voted that after the final lecture the present series be discontinued until next fall.

Discussion on the school health department was opened by Dr. Krolicki. A special Committee was appointed by the President to draft recommendations for the improvement of the school health department. The Committee consists of Thad. A. Krolicki, Robert T. Henry and Edward McCaughey.

The recommendations of the Committee were as follows:

1. A course in first aid for emergencies which arise in the schools, to be taken by all school teachers.
2. Elimination of group pre-school examinations in favor of a complete physical examination by the family physician according to the requirements of the National Parent-Teachers' Association, but modified to permit the examination of children without fee in the event parents are unable to pay.
3. Elimination of physical examinations by teachers, as of eyes and feet, the same to be done by the school nurses under supervision of the school physicians.
4. Elimination of treatment of pupils by school teachers except in emergencies requiring first-aid.
5. Cases of illness or injury among pupils to be handled by family physicians.
6. Evolution of some method of checking absentees to determine whether they are suffering from contagious disease.
7. Placing of school nurses under the direction of school physicians, the nurses to act on order of the physicians and not on order of the school officials.

8. Full authority for school physicians to decide whether or not a child should be accepted for the open-air school.
9. Establishment of special grades for backward children in various districts.
10. Standard first-aid equipment for each school, such equipment to be used under the supervision of the school physicians.

These recommendations were tabled for final consideration at the next meeting. Following a collation, the meeting was adjourned.

Respectfully submitted,
 GEORGE B. McCLELLAN, M.D.,
Secretary.

RHODE ISLAND SOCIETY FOR MENTAL HYGIENE

Report of the Annual Meeting

RHODE ISLAND COLLEGE OF EDUCATION

FRIDAY, MARCH 5, 1937 4:00 P. M.

PROGRAM

DR. ARTHUR H. HARRINGTON, Superintendent Emeritus, State Hospital for Mental Diseases, *Chairman*

DR. ARTHUR H. RUGGLES, President, National Committee for Mental Hygiene, *"What Can Be Done Toward Prevention"*

DR. EVELYN ALPERN, Medical Director, Providence Child Guidance Clinic, *"The Providence Child Guidance Clinic"*

DR. FRANK J. O'BRIEN (Guest Speaker), Acting Director, Bureau of Child Guidance, Board of Education, New York, *"Child Guidance and Education in the Schools"*

Dr. Harrington, as chairman, opened the meeting with a brief history of the Society, commending its attainment of chronological maturity by touching on many of the important measures toward increased community consciousness of the problems of mental health which have developed during the Society's twenty-one year period of adolescence. He stressed that, although the R. I. Society for Mental Hygiene may look back with a sense of accomplishment, the present picture does not allow for a feeling of settled satisfaction.

Dr. Ruggles, in recognizing the progress which has been made, pointed out that the expenditure of approximately \$4,000,000 for the construction of new buildings at the State Institutions does not

solve the problem of mental disease. The time has come when we must realize that the solution to the problem lies not only in expenditures for buildings and equipment, but also in the matching of these dollars to supply the brains necessary to adequately manage and staff these buildings for research and study into the situations which increase the need for these buildings; and for progressive education, which shall be not simply the imparting of information but which shall lead to a true development of the child's total personality. This is a problem which cannot be handled by one group or one district but must be met by co-operative effort and sacrifice on the part of parents, psychiatrists, the church, schools, and social organizations.

Viewing the problem of mental health from the angle of the school and the clinic, Dr. O'Brien pointed out that undesirable behavior on the part of an individual is an indication that this human being is unable to get along. Frequently the home and the school fail to recognize that the too-good child who receives A in conduct and studies is in reality living out an undesirable form of behavior which society through the courts and its penal institutions is forced to deal with in later years. It is not the 39 children in a classroom that fill our reformatories, but the 40th odd child. The school must meet this challenge and assume full responsibility for the development of this odd child.

The school, if it is to adequately meet the needs of the child in developing his total personality cannot lend itself to license and lack of discipline on the one hand, nor can it maintain a dictatorship in which military discipline and clock-work precision are the rule. The good school follows a middle course which allows for growth within defined limits. Strangely enough, the emphasis in choice of teachers and principals is upon qualities of leadership—an emphasis which has often resulted in the choice of aggressive people for positions in which aggression can be more of a handicap than an asset. It is more important for the growth of the child that his teacher be a happy, healthy individual, than one possessed of advanced degrees and high scholastic standing.

Referral to a clinic does not mean an admission of failure on the part of the school, the teacher or the principal. A good doctor does not hesitate to call in a specialist when the patient's health indicates. A good educator, in dealing with serious personality problems, seeks the help of the specialist in that field, the psychiatrist.

Dr. Alpern described the functioning of the Providence Child Guidance Clinic as follows:

The Providence Child Guidance Clinic is a clinic for the psychiatric treatment of the behavior problems of childhood. (Clinic service is limited to those individuals who are not able to afford the services of a private psychiatrist.) This clinic, like every other child guidance clinic, operates through the use of a philosophy of helping human beings in emotional difficulty which is carefully tested by us, as it is and has been by leaders in the child guidance field throughout this country. This philosophy, for us, is centered around our understanding of the factors involved in bringing about change in a human being. Why do human beings change? Our understanding of this important psychological phenomenon in the life of an individual is vital for our effective functioning.

We may consider the phenomenon of change in relation to what happens when a parent brings a child to the clinic. The parent, more frequently the child's mother, may come to us because she is seriously troubled about some phase in her child's personality growth and development. In seeking help for this problem, her physician, perhaps, or the child's school, perhaps, has told her that the clinic may be able to help her in the working out of the problem. A mother may come on the other hand, because people she knows are critical because of the way her youngster behaves. They may criticize the mother herself because of the way in which she brings up the child. A mother may, therefore, come to us, in this instance, not so much as an individual seeking help, but as an individual seeking vindication or justification for herself. Her thinking may be something like this, "I'll show them all how smart they are. I'll take Johnny to the Child Guidance Clinic, but the clinic cannot help him, I know. I'll show them that everything is being done that can be done, and that if I cannot make Johnny good, no one can."

These two brief examples illustrate two of the many and varied kinds of feelings about their child's problems that a parent may bring with him when he comes to us. What happens when the parent does come to the clinic, and what is it that can make for change in a troublesome and often seriously pathological situation?

We know that a fundamental factor in motivating change in a human being is inner desire for change, inner dissatisfaction with ourselves as we are. This desire for change is never a one-sided

feeling. Like most human emotions, it is double-edged. On the one hand, we wish for change; on the other hand, we cling desperately to what we are, which carries with it the known, the safe, the residuals of our past living and our present strivings. Most important of all, what we are now and what we have achieved as we are now, represents something that is our own, and because of this has unique value for us.

In our work with parents, as well as with children, we respect that what the parent and child brings to us carries with it the integrity of the individual. This integrity must not be violated if the parent or child is to obtain psychological help. We can appreciate the individual's need to cling to the old self as well as his wish for change in that self. A sturdy bulwark in our treatment armamentarium therefore becomes this: We can accept the individual as he is when he comes to us, troubled, confused, angry, bitter, disappointed, or whatever the case may be. Concretely, let us suppose that a mother comes to us saying: "I don't know what to do about Sally. I've tried everything. Sometimes I wish that she had never been born. Sometimes I wish that I had never been born." What do we say to this mother. We say this, in effect, as treatment progresses: "In this clinic we can give you an opportunity to re-experience in a neutral atmosphere some of these things that trouble you. You tell us that you wish your child had never been born. We shall not criticize you for this nor shall we condone you. This, we know, is what you feel at this moment. This feeling is at this time a very real part of yourself. It may not be all of you. Our interest in you is in helping you to think out with us what you can do about all this." This approach utilizes our understanding that maximum psychological help comes out of helping an individual to do as much as he is able at a particular time. Our interest becomes focussed in this, rather than, through cajoling, persuading, threatening or punishing, in trying to get him to do what we think best. We can be content to withhold this authoritative kind of approach, because we utilize in our thinking the studies that have been made that have to do with emotional growth. We know from these studies that in each human individual there are strivings toward maximum emotional growth or maturity. Our interest becomes centered, then, around offering a medium through which an individual may strengthen his own tendencies toward emotional growth and maturity.

In addition to help offered parents, the clinic offers psychiatric treatment for children. This treatment, too, is centered around offering the child an opportunity for further emotional growth and development. We find that even at times very young children can make use of this kind of treatment. Younger children are given an opportunity to work out their feelings about things through the medium of play, the natural mode of expression for the child. Toys are utilized not for the pleasure value of play but as a vehicle through which the child may express his emotions. Through this kind of play, which the psychiatrist can understand, the child, too, may achieve some better balance in his emotional life at the point at which he is blocked. We interpret a child's difficulties in behavior, such as truancy, wetting, sex difficulties, temper tantrums, as evidences of blocking in his emotional growth, and through the use of treatment may be able to give him an opportunity for an impetus toward the healthy resumption of growth. Here, too, we are interested not in disciplinary, punitive, or pedagogical measures. In some instances it becomes necessary to help in planning for certain modifications in the child's environment, to enable him to best use what he has gained from clinic treatment.

In conclusion, then, the Providence Child Guidance Clinic represents a place where both parents and child, in those instances when there are difficulties in the child's living, either with himself or with others, as evidenced by his behavior, can find through the professional help of the clinic staff an opportunity for working toward further self development.

Change of Address

Dr. John J. Donnelly to 603 Broad Street, Providence, R. I.

Dr. D. R. Brodsky to 126 Waterman Street, Providence, R. I.

Dr. Russell Hunt to 80 Glen Avenue, Edgewood, R. I.

Dr. James F. Boyd to 195 Angell Street, Providence.

Dr. L. A. Martineau to 195 Angell Street, Providence.

RECENT BOOKS

A HAND-BOOK OF OCULAR THERAPEUTICS. By Sanford R. Gifford, M.A., M.D., F.A.C.S. Second Edition, thoroughly revised, 341 pages, illustrated with 60 engravings. Cloth, \$3.75. Lea & Febiger. Philadelphia, 1937.

This is a concise book on therapeutics in which an attempt is made to present only the most valuable procedures.

Pathogenesis and diagnosis are brought in only where

they relate to treatment. Surgery, except for minor procedures, is not dealt with at length.

Vitamins, glandular extracts, and Physical Therapy are discussed thoroughly. The book makes a compendium of modern therapeutics of the eye as practiced in America. The author is well qualified both from his own experience and familiarity with the work of other competent practitioners to speak with some authority.

The book is compact, well-arranged, clear, logical and sane. It is becoming the standard work on its subject in this country.

HARRY C. MESSINGER, M.D.

SYNOPSIS OF ANO-RECTAL DISEASES. By Louis J. Hirschman, M.D., F.A.C.S., pp. 288, with 174 text illustrations and 6 color plates. Cloth, \$3.50. St. Louis, The C. V. Mosby Company, 1937.

This book is the fifth of a line issued by the author since 1909 in an effort to bring to medical students and general practitioners a condensed work adaptable especially to the needs of the latter. Following consideration of the main points of anatomy, the book treats of the diagnosis and care of diseases that one would meet in the usual day's work: hemorrhoids, fistula in ano, infections of the bowel, functional disturbances, constipation and related conditions. Local anesthesia, the use of which the author feels would allow for many ordinary complaints to be handled satisfactorily in the office, is given considerable attention. He stresses the need of complete local examinations when symptoms point to ano-rectal disease, citing the too frequent pitfall of finding malignancy long after treatment for some benign condition has been instituted. He thinks also that better handling of these conditions would keep many patients out of the hands of the pseudo-scientific practitioners. The book is interesting, compares favorably with like treatises, and is recommended to those interested in this work.

JAMES H. FAGAN, M.D.

MEDICAL MORALS AND MANNERS. By Hubert Ashley Royster, M.D. 333 pages, Cloth, \$2.50. Chapel Hill, The University of North Carolina Press, 1937.

The author of this volume is a distinguished physician; a man whose literary efforts and professional achievements have earned for him an enviable reputation. The present volume is essentially a collection of his numerous essays and addresses written over a period of many years. Medical colleagues, as well as the medically minded public, will find the assembled papers enjoyable and instructive reading.

The author writes of many subjects, varying in character from interesting reminiscences, short biographical sketches of the great masters of early American medicine, chapters devoted to the betterment of the public's medical welfare, and subjects chiefly of interest to physicians.

It is gratifying to feel that this book was not published with the intent that it should become another medical "best seller." Instead, it is written in an informal but vigorous style and contains not the dramatic or spectacular, but the sound logic of a physician who for over forty years has contributed much of value to our profession.

RUSSELL S. BRAY, M.D.